

WEST VIRGINIA UNIVERSITY
College of Engineering and Mineral Resources
Lane Department of Computer Science and Electrical Engineering
Spring 2020

EE 222 Intro to Electrical Eng. Laboratory

Instructor: Haifa Abulaiha

Lab Hours: Section 7: M 11:00-1:50 PM, ESB G23
Section 16: T 11:00-1:50 PM, ESB G23
Section 17: R 11:00-1:50 PM, ESB G23

Office Hours: By appointment. ERB 216
You can also send me an e-mail to set up a meeting.

E-mail: hmabulaiha@mix.wvu.edu

Course Material:

- Laboratory handouts
- At least one laboratory kit per group, available from WVU IEEE (<https://squareup.com/store/wvu-ieee>), and many electronics component and supply retailers (shop.stateelect.com/category_s/1959.html)

Prerequisites: Coreq: EE 221

Objective:

The objective of this course is to provide students with the fundamental skill sets required in the design and analysis of basic electrical circuits, with the help of devices such as power supplies, oscilloscopes, function generators, multimeters and simulation software.

Learning Outcomes:

Students are expected by the end of the course to:

- ✓ Be able to use laboratory equipment such as power supplies, oscilloscopes, function generators, and multimeters.
- ✓ Be able to simulate basic circuits using LTSPICE.
- ✓ Be able to design basic circuits using resistors and capacitors.
- ✓ Be able to troubleshoot circuits in lab.
- ✓ Be able to present clear and organized lab reports.

Attendance:

You are expected to attend every laboratory session. Attendance will be taken and will reflect on your final grade. The decision to allow a makeup lab will be at the discretion of the instructor. Appeals to this decision should be directed to the Associate Dean of Academic Affairs.

Lab Reports and Portfolio:

- ✓ Lab reports for each experiment are due by the beginning of the lab session for the following experiment.
- ✓ Late reports will be assessed a 10% reduction in score each late day. Reports submitted more than one week after the due date will not be accepted.
- ✓ Lab reports must be word-processed and presented in a professional manner. Each group is to submit one report per member. If a group has 3 members, that means 3 separate reports.
- ✓ Members of the same group may share results, but the remaining material must be your own.

Lab Portfolio:

Each student is required to submit a portfolio at the end of the semester. The portfolio must be uploaded to eCampus as a single Word or PDF file organized as follows:

- ✓ One-page summary of what was learned in the laboratory.
- ✓ Syllabus
- ✓ Lab handouts
- ✓ Scanned lab notes (if any)
- ✓ Graded lab reports
- ✓ All pages must be numbered
- ✓ A table of contents should be included on the first page of the portfolio. It should list the title of the lab and the page numbers it covers.
- ✓ Attachments (if any), should be fastened permanently.
- ✓ The portfolio should be a chronological order of all work done (ie lab 1 handout, lab 1 notes, graded lab 1 report, lab 2 handout, etc).

Note: We encourage you to finish experiments during the laboratory schedule. Students in a scheduled period will always have the first priority to the use of the equipment of the laboratory.

Grading Policy:

- Lab Reports: 40%
- Portfolio: 20%
- Attendance: 10%
- Final Exam: 30%

Grade Assignment:

- 90 - 100% → A
- 80 - 89% → B
- 70 - 79% → C
- 60 - 69% → D

Social Justice Statement:

West Virginia University is committed to social justice. I concur with that commitment and expect to foster a nurturing learning environment, based upon open communication, mutual respect, and non-discrimination. Our university does not discriminate people on the basis of race, color, national origin, sex, age, disability, veteran status, religion or sexual orientation. Any suggestions as how to further such a positive and open environment in this class will be appreciated and given a serious consideration. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with Disability Services (293-6700). If you feel that you are being treated inappropriately or unfairly in any way, please feel free to bring your concerns into my attention. Please be assured that doing so will not prejudice the grading process. In return, I expect you to behave professionally and ethically.

Lab Report Format:

Cover Page:

Course: EE 222
Fall 2019
Section:
Date:
Lab No: #
Lab Name:

Submitted by:

Group Member(s):

Circuit Diagram:

Graphs or
Waveforms:

Subsequent Pages:

Objective:

Procedure:

Calculations:

Final Readings
Observed in Lab:

Conclusion: